North West Water

Dawson House, Great Sankey
Warrington WA5 3LW
Telephone Penketh 4321

11th October, 1977

To: Members of the Eden & District
Fisheries Advisory Committee
(Messrs. E.P. Ecroyd (Chairman);
A.E.I. Bell; E. Cave; T. Cousins;
Dr. I.J. Faulkner; A.C. Findlay;
E.H. Fleming Smith; L. Heyworth;
B. Irving; J.S. Marshall;
Wm McKenna; R.K. Nicholson; and
the Chairman of the Authority
(P.J. Liddell); (ex officio)).

Dear Sir,

A meeting of the EDEN AND DISTRICT FISHERIES ADVISORY COMMITTEE will be held at 2.30 p.m. on TUESDAY, 18TH OCTOBER, 1977, at the NORTH CUMBRIA AREA OFFICE of the RIVERS DIVISION, CHERTSEY HILL, LONDON ROAD, CARLISLE, for the consideration of the following business.

Yours faithfully,

G. W. SHAW,
Director of Administration.

A G E N D A

1. Appointment of Chairman.
2. Apologies for absence.
3. Minutes of the last meeting (previously circulated).
4. Fisheries Income and Expenditure.
5. Possible Development of Rivers Waver and Wampool as a sea trout fishery.
6. River Eden - Draft Nets.
7. Report by Area Fisheries Officer on Fisheries Activities.
8. Netting on the Solway Firth.
9. Any other business.

NORTH WEST WATER AUTHORITY

EDEN & DISTRICT
FISHERIES ADVISORY COMMITTEE

18TH OCTOBER, 1977

FISHERIES INCOME AND EXPENDITURE

1. Last February the Policy and Resources Committee were informed of the disappointing amount of income received from the sale of fishing licences in 1976, the first year of operation of the re-structured fishing licence duties. It was decided to seek an interim increase in licence duties of 30% to operate from 1st January, 1978, and set up a working party of officers to report on the general relationship between income and expenditure on Fisheries and make recommendations as to policy for the future. All Advisory Committees were informed of this decision at the March/April cycle of meetings.

2. Report of Working Party

After a critical examination of the expenditure charged to Fisheries Account, which identified certain areas and items where economies might be made, the general conclusion was that the expenditure reflected the standard of service provided. Only by drastically cutting the standard of service could expenditure be significantly reduced. It was not felt that this would be acceptable to the Authority in view of the short time the Regional Fisheries Services had been in existence. Rather than a cut in expenditure it was recommended that a cash limit be imposed on the future expenditure on Fisheries Account based on the £658,000 working expenses of the Rivers Division for 1977-78 plus an adjustment for future inflation. In addition, some attempt must be made to increase the income.

3. It was considered that income might be increased by restructuring and repricing fishing licences and levying fishery contributions if this proved feasible.

4. After reviewing the structure and operation of the present licences and taking account of the comments received from licence distributors and anglers, including the points raised by objectors to the proposed 30% increase, it was recommended that:-

(a) The present combined salmon/migratory trout licence be discontinued and replaced by a separate salmon licence and a combined migratory/non-migratory trout licence.

(b) Children of 10 years and over (instead of 14 at present) should hold licences.

(c) Seven day rod licences should be for 14 days and the duty increased.

(d) A scale of licences should be introduced to cover commercial eel fishing.

(e) The various licences and prices be as shown on Appendix I.

5. It was not proposed to seek increases in the Nets and Fixed Engine licences as these were substantially increased at the last review and the additional 30% would add considerably to the present unit figures as shown on Appendix II.

6. Water authorities may make application to the Minister of Agriculture, Fisheries and Food for an Order authorising them to levy a contribution on the owners of those fisheries where person(s) have the sole and exclusive right to the fishing. In order to do this, the fisheries have to be identified, a yearly value assessed, in a manner similar to that used for General Rating purposes, and a contribution, or rate in the £, is levied up to the amount specified in the Minister's Order. A good deal of work will be involved in setting up the records for levying such contributions and this is probably the main reason why only one authority, the Welsh, is proposing to extend the levying of contributions throughout their area. Nevertheless, in view of the urgent need to increase fisheries revenue from whatever source, it was recommended that further investigation be made into the feasibility of levying fishery contributions throughout the area.

7. The search for an acceptable rational relationship between income and expenditure is a topic being discussed by most water authorities. Some water authorities, e.g. Anglia and Thames, both of which have little or no game fishing, intend the fishery function to be financed 100% from revenue from licence duties. Other authorities are seeking a lower level of income from licence duties but seeking to charge what the market will bear. The problem is to find a rational base on which to decide policy. One suggestion, which has not found a great deal of support, was put forward by officers of the Northumbrian Authority, that licence income should provide only that income which would cover improvement to fisheries, the balance of expenditure being deemed to be of benefit to the general community being met by the community at large. It was estimated that this would result in licence revenue producing 30-35% of total expenditure of that Authority. Another suggestion by Severn-Trent is that licence income should meet the direct costs of fisheries and the balance be met by the community. Both proposals are subject to practical difficulties of identifying and analysing costs which would rest, in the ultimate, on subjective judgements.

8. The working party recommended as a practicable alternative that the long-term financial policy should be based on the principle that licence duties should, as a minimum, meet the costs of licensing and enforcement. The Authority is required by Statute, unless excused by the Minister as regards freshwater fish, to regulate fishing by means of a licensing system. It is absurd to have a system of licensing which does not pay for itself. The effect of applying this principle is that the cost of licensing and enforcement, based on the current year's estimates, is £400,000 or 56% of the total estimated cost of the Fisheries function of £710,000. If the 30% increase, due to come into effect from 1st January, 1978, produces £180,000, licence income will have to increase by a further 122% to attain the 56% level. It is suggested therefore that this large increase be phased in over three years starting in January, 1979.

9. It is to be noted that although the Authority has power to fix all other charges with reference only to the Price Commission, fishing licence duties have to be approved by the Minister of Agriculture, Fisheries and Food. In addition the procedure is lengthy, e.g. this report is concerned with the implementation of new duties with effect from 1st January 1979. If the proposals for phasing in the increases over three years are agreed, as soon as the Minister's approval for Phase 1 is received, an immediate start on the procedure to implement Phase 2 would have to be made. In particular this lengthy procedure does not facilitiate increases proposed to take account of inflation.

10. The report of the Working Party was submitted to the Finance and Personnel Sub-Committee on 13th September, 1977, and contained the following recommendations.

(a) Expenditure on Fisheries Account be contained for the immediate future by imposing a cash limit on expenditure, related to the £658,000 working expenses of the Rivers Division for 1977-78, plus an adjustment for future inflation.

(b) Restructuring and Repricing of Licence Duties:-

(i) The combined salmon and migratory trout licence be discontinued and be replaced by a separate salmon licence and a combined migratory/non-migratory trout licence.

(ii) The age at which a child must have a licence be reduced from the present 14 years to 10 years.

(iii) Seven day rod licences be for 14 days and the duty increased.

(iv) A scale of licences be introduced for commercial eel fishing.

(v) The various licences and prices from 1st January, 1979, be as shown in Appendix I.

(c) Further investigation be made into the feasibility of levying fishery contributions throughout the region.

(d) Income from licence duties as a minimum, meet the costs of licensing and enforcement.

(e) The proposed policy be phased over three years starting on 1st January, 1979, and licence fees should be increased in the two years thereafter with a view to income from licensing being sufficient to meet the costs of licensing and enforcement as from 1st January, 1981.

(f) If the above recommendations are approved, they be sent to the Regional and Local Fishery Advisory Committees for their comments and observations.

11. The Sub-Committee recommended approval of 10(a) but recommended that all the proposals in 10(b) be submitted to the Regional and Local Fisheries Committee for comments and observations before taking any further decision.

12. The views of all the Local Committees will be submitted to the Regional Committee on 14th November, 1977, whose recommendations will in turn be submitted to the Policy and Resources Committee on 5th December, 1977.

FISHING LICENCE DUTIES

Rod and Line (whole area)	Rates from 1st January 1976 £ p	Rates Increased by 30% wef. 1st January 1978 £ p	Proposed Structure and Rates wef. 1st January 1979 £ p
SALMON & MIGRATORY TROUT			**SALMON**
Season	12.00	15.60	Season 16.00
Part Season to May 31	6.00	7.80	Part Season to May 31 8.00
" " from June 1	7.00	9.00	" " from June 1 11.00
Junior/OAP's			Juniors/OAP's
Season	5.00	6.50	Season 7.00
Part Season to May 31	2.50	3.25	Part Season to May 31 3.50
" " from June 1	3.00	4.00	" " from June 1 5.00
7 day Licences	2.00	2.60	14 day Licences 4.00
NON MIGRATORY TROUT			**NON MIGRATORY TROUT**
Season	2.00	2.60	Season 4.00
Season Junior/OAP	1.00	1.25	Season Junior/OAP 2.00
7 day licence	.50	.65	14 day licence 1.00
FRESH WATER FISH & EELS			**FRESHWATER FISH & EELS**
Season	1.00	1.25	Season 2.00
Season Junior/OAP	.50	.65	Season Junior/OAP 1.00
7 day licence	.25	.35	14 day licence .50
In former Mersey & Weaver Area			**MIGRATORY & NON MIGRATORY TROUT**
Season	.50	.65	Season 8.00
Season Junior/OAP	.25	.35	Season Junior/OAP 4.00
			14 day licence 2.00
			COMMERCIAL EELS
			Fixed Eel Traps, 25.00 per trap p.a.
			Eel or Fyke nets 10.00 per net p.a.
			Traps, Putcheons or Baskets 5.00 per 25 (or part thereof) traps p.a.
Estimated Income	1977-78 £150,000	1978-79 £180,000	1979-80 £240,000

APPENDIX II

NETS AND FIXED ENGINES

LICENCE DUTIES

	Pre-1976 £	1.1.76 £	Proposed 1.1.78 £
Cumberland Area			
Whole Area Drift Net	35.00	60.00	78.00
River Eden Draw Net	60.00	150.00	195.00
River Esk Draw Net	30.00	50.00	65.00
Whole Area Heave Net	6.50	13.00	16.90
River Eden Coop	55.00	90.00	117.00
River Derwent Coop	125.00	200.00	260.00
South West Cumberland Garth ..	65.00	100.00	130.00
Lancashire Area			
River Ribble Drift Net	15.00	40.00	52.00
River Lune Drift Net	30.00	80.00	104.00
River Lune Draw Net	25.00	70.00	91.00
River Duddon Draw Net	20.00	55.00	71.50
River Lune Heave Net	15.00	30.00	39.00
River Kent Lave Net	15.00	30.00	39.00
River Leven Lave Net	15.00	25.00	32.50

NORTH WEST WATER AUTHORITY

EDEN AND DISTRICT
FISHERIES ADVISORY COMMITTEE

18TH OCTOBER, 1977

POSSIBLE DEVELOPMENT OF RIVERS WAVER AND WAMPOOL AS A SEA TROUT FISHERY

1. In response to a request from a member of the South and West Cumberland Fishery Advisory Committee, the Area Fisheries Officer reported orally to the meeting of that Committee held on 27th June, 1977, on the possible development of the Rivers Waver and Wampool as a sea trout fishery.

2. In his report, the Area Fisheries Officer gave details of the drainage characteristics of the catchment of the Rivers Waver and Wampool and aspects of water quality, the only significant discharge of trade effluent being at Wigton. The discharge had a marked effect upon water quality in the Waver estuary and pollutants were carried upstream to the tidal limit. The discharge was also thought to affect water quality in the Wampool estuary since both rivers discharge into Moricambe Bay which is distinct from the Solway.

3. The Area Fisheries Officer indicated that there had been a considerable decline in migratory fish stocks in the Wampool over the previous 20 years. An extensive estuarial survey had been undertaken on the Waver and following examination of results of the survey it would be possible to describe in more detail the effects of the discharge upon both the Waver and Wampool estuaries together with any possible effects this might have on migratory fish.

4. As a result of that report, the South and West Cumberland Advisory Committee requested the officers to submit a written report to the October meeting of that Committee. However the report, which is attached as an Appendix hereto, is submitted for consideration by this Committee also, as it is now clear that the rivers are wholly within its area.

1. PHYSICAL DESCRIPTION OF CATCHMENTS

(i) River Waver

The River Waver and its major tributary Crummock Beck rise on the Western fringe of the Northern Fells but for the remainder of their courses flow north westerly across the relatively flat area of the Solway Plain. Crummock Beck joins the River Waver about 1 mile south of Abbeytown. During its course across the Plain the river receives numerous tributaries which drain the low-lying agricultural land which is mainly used for dairy farming.

The Waver discharges into the southern part of Moricambe Bay. Before discharging into the Solway Firth proper, the Waver joins the low water channel of the River Wampool which discharges into the northern part of the Bay.

The Waver has a catchment area of 107 km^2 and a theoretical average daily flow to the Estuary based on long-term average rainfall, of 184 Ml/d. Average dry weather flows are likely to be about 5%-10% of this figure although a single flow measurement in dry weather has given a reading of 6.04 Ml/d.

(ii) River Wampool

The River Wampool rises on the lower slopes of the Northern Fells but rapidly falls to flow north-west across the relatively flat agricultural land of the Solway Plain. The main tributary of the Wampool is the Wiza Beck which also flows across the coastal plains. Downstream of the confluence with the Wiza Beck the river meanders through the flattest part of the plain, and is slow flowing. The river receives numerous small tributaries, mainly slow flowing drainage channels draining the surrounding low lying agricultural land, which is used for dairy farming. The river discharges into Moricambe Bay at Anthorn prior to discharging into the Solway Firth proper.

The Wampool has a catchment area of 157 km^2. Theoretical average daily flow to the Estuary is 202 Ml/d. It is estimated that dry weather flow is about 5%-10% of this figure. A single dry weather flow of 17 Ml/d has been measured.

2. ABSTRACTIONS

(i) River Waver

There are no significant abstractions of water for either potable or industrial use in the catchment of the River Waver.

(ii) River Wampool

There are no significant abstractions for potable supplies. The only significant industrial abstractions are those by trade premises at Wigton. There are two abstraction points:-

(1) From the Wiza Beck with a licence abstraction of 0.204 Ml/d.

(2) From Black Beck, a tributary of Wiza Beck, with a licence abstraction of 0.136 Ml/d.

The firm, in their abstraction licence are required, when the residual flow in Wiza Beck falls below 9.08 Ml/d, to augment the flow by using alternative means of water supply to endeavour to maintain the flow at 9.08 Ml/d with abstraction from underground supply.

3. DISCHARGES

(i) River Waver - Trade Effluent Discharges

The only consented trade effluent discharge is that from trade premises mentioned above to the tidal stretch of the River Waver at Raby Cote. Since this has a most significant effect upon the water quality of the Waver Estuary it is perhaps pertinent to give a brief historical background.

The effluent from the firm, who are manufacturers of cellulose and PVC wrapping films, was originally discharged to the sewage disposal works of the former Wigton RDC. The effluent consisted of high acidity and sulphide components which quickly contributed to a collapse of the sewage works which discharged at that time to a tributary of the Waver.

In 1952 the present 'Wigton Trade Effluent Sewer' was constructed by the District Council who concurrently built the present Wigton Sewage Treatment Works which now discharges to the River Wampool. The'Trade Effluent Sewer' discharges to the tidal stretch of the River Waver and at the time of construction the discharge was not controllable under pollution prevention legislation. With the construction of the sewer, an agreement for the discharge of the firm's trade effluent to it was made between the firm and the District Council.

In 1969, i.e. after the enactment of the 1960 tidal waters legislation, following proposed changes in their manufacturing processes the firm applied to the District Council for a new trade effluent agreement. As there would be material alterations to the discharge, a consent under the Clean Rivers (Estuaries and Tidal Waters) Act, 1960 was then required.

The new process would give rise to an increase in volume and, more importantly, to the presence of a high concentration of Zinc in the effluent. The former Cumberland River Authority determined this application and issued a consent restricting the level of Zinc and the opportunity was taken to limit several other parameters. This was aimed at restoring the estuary to a condition acceptable to migratory fish. Due to the financial impact of treating the effluent to this standard an appeal was made by the Company to the Secretary of State for the Environment. Following a public inquiry the Minister directed that a consent be issued for the discharge permitting the Company to discharge an effluent of the quality specified in the application. The Minister also directed that a consent should be reviewed after a period of two years in the light of further investigations, i.e. extending the sewer outfall. This investigation was carried out but proved an extension of the outfall would not economically solve the problem.

In fact the firm discharging to the 'trade effluent sewer' did not introduce the new process involving the discharge of Zinc but a new consent was granted by the River Authority as directed by the Minister but omitting the Zinc content. Since then there have been regular meetings with the firm to discuss their effluent and improvements to it.

Since 1974 the Authority has become responsible for the trade effluent sewer and the Authority have an agreement with the firm for the discharge of trade effluent and the firm have accepted the principle that they are the sole dischargers.

The firm are currently carrying out pilot study experiments for treating their effluent and improving the quality of the discharge. These experiments have so far produced encouraging results and it is thought that the process should lead to the discharge of an effluent of approximately neutral pH and with a low sulphide content. The firm, in recent discussions, have presented a tentative timetable of their future research and development. It is thought that providing the present experiments continue to give promising results the firm would in some two years or so be able to construct a scaled up treatment plant capable of treating the effluent from one cellulose film line. However, there are four cellulose film lines currently in production and the timing of further treatment would depend upon the result obtained from the first plant and the possibility of the firm's ability to incur further capital expenditure.

A review of the present consent conditions to necessitate improvements earlier than the Company would be prepared to act could lead again to an appeal situation.

(ii) River Waver - Sewage Effluent Discharges

There are five sewage treatment works discharging to the Waver catchment. They are generally small works serving rural villages and their overall effect on the catchment is minimal, the effects being generally localised and minimal. In some cases biological organic enrichment is evident and the fauna is restricted. There are no schemes planned in the next five years for improvements to sewage effluent treatment works in the Waver catchment.

(iii) River Wampool - Trade Effluent Discharges

The only consented trade effluent discharge is of cooling water to the Black Beck. The discharge is not known to have any adverse effects upon Black Beck or the Wiza Beck to which it flows.

(iv) River Wampool - Sewage Effluent Discharges

There are seven sewage treatment works discharging to the Wampool catchment. With the exception of the Wigton sewage treatment works (which has a DWF of 1.17 Ml/day to the Wampool) they are generally small works. The treatment works at Gamelsby, Little Bampton, Newton Arlosh and Thursby, all of which discharge to the tributaries of the Wampool, give rise to some localised pollution. Furthermore the discharges from Little Bampton and Thursby also give signs of organic enrichment.

The Wigton Sewage Treatment Works is operating under overloaded conditions and discharges are almost always outside the consent conditions. However, the effect of the discharge on the receiving water is minimal and localised.

4. BIOLOGICAL ASPECTS

(i) River Waver

The River supports a fauna indicative of good biological quality, particularly when allowances are made for the adverse physical conditions of the lower freshwater reaches which are flat and heavily silted. The upper reaches have a typical stream fauna with good faunal diversity. The Trent Biotic Index is 9 or 10 in these reaches.

In the lower reaches the river has been canalised by land drainage works. In many places the flows are much slower and often less diversity of habitat and consequently show a decreased diversity of species. The Biotic Index of 9 indicates clean water prevailing.

The situation changes in the tidal region and early results from two recent surveys indicate a sharp decline in the numbers of individual organisms which suggests that the trade effluent discharge is having a detrimental effect.

(ii) River Wampool

It is perhaps noteworthy, from results of surveys taken in recent years, that even the upper reaches of the Wampool system, whilst clean and with reasonable representation of stonefly and mayfly nymphs in the fauna, shows much less diversity than the upstream reaches of the Waver. Differences in the topography of the catchment, and hence the physical natures of the stream habitat available, rather than differences in pollution load are most likely to be responsible for this state of affairs.

Slack reaches and silting conditions are even more of a feature of the downstream portions of this catchment than on the Waver. However, the species which are present are indicative of relatively clean water. The Trent Biotic Indices for the river vary from 7 to 10.

Evidence of biological samples from the Wiza Beck suggest that the Beck is fairly rich in organic matter and is biologically very productive but not polluted and has a Biotic Index of 6.

5. CHEMICAL ASPECTS

(i) River Waver

The results of recent analytical surveys show that in the non-tidal waters the quality fluctuates from 'clean' to 'doubtful' classifications with the bulk of results being in the 'fairly clean' category. The dissolved oxygen levels are generally around 90% of saturation and do not usually fall below 70%. However, this fairly satisfactory condition changes in the estuary. Two major surveys carried out in the past 12 months clearly showed the profound effect which the trade effluent discharge has on the quality of the water. The first survey indicated that a short distance downstream of the effluent discharge depressed dissolved oxygen levels were to be found throughout nearly all of the tidal cycle. A dissolved oxygen level of 15% of saturation was found in one sample and levels as low as 20%-30% of saturation occurred frequently. From the result of this survey the officers are of the opinion that a 'slug' of pollution will probably be present at the upper tidal limits throughout the tidal cycle except possibly when the river is in high spate providing massive dilution. If this 'slug' does exist, except in flood conditions, the results obtained so far certainly indicate that it would restrict movement of migratory fish through the channel of the Waver.

(ii) River Wampool

Recent surveys show that the water quality can fluctuate from 'clean' to 'doubtful' classification with the bulk of the results being in the 'fairly clean' category. Dissolved oxygen levels remain usually around 80%-90% saturation but can on occasion drop to around 45%. Levels of nutrients such as nitrate and phosphate are also high and are consistent with the quality of a water which drains an area of intensive agriculture.

In the estuary a recent survey undertaken has shown that the water in the channel of the River Wampool is relatively free from pollution and has levels of oxygen in excess of saturation, but as mentioned in the preceding paragraph, the freshwater feed and thus the transition zone of the estuary can have seriously depleted oxygen levels.

6. LAND DRAINAGE

Land drainage improvement works were carried out by the predecessors of the Authority, working in conjunction with the Waver and Wampool IDB on the Waver and Wampool catchments in a period 1947-1971. These improvement works which were of considerable benefit to the low lying agricultural land included extensive regrading, and some realignment and construction of flood banks. As a result of these works considerable land tiling has been introduced by local agricultural interests.

Since these improvement works have been carried out, routine maintenance and heavy selective maintenance have been necessary in the catchment as an essential annual feature to maintain the efficient drainage of the low lying areas. The expenditure in the current financial year for maintenance works on the Waver and Wampool catchments is estimated at £20,000.

At the present time officers of the Rivers Division are giving preliminary consideration to further improvement works which may be considered desirable in the catchment for the future improvement of land drainage and land reclamation.

7. FISHERIES

(i) Present situation

The lower reaches of the Wampool support a flounder fishery, and both rivers are also locally popular brown trout fisheries. The middle and upper reaches of both rivers, where the growth of sea trout parr would take place, are well stocked with brown trout. The Wampool receives a small run of sea trout whilst the Waver receives an occasional sea trout although no catches have been reported in recent years. There are also some coarse fish present in the middle and upper reaches but neither river system is a popular coarse fishery.

(ii) Physical obstructions to movements of migratory fish

There is a weir at Wigton on the Wiza Beck which is used in connection with the water abstraction. This weir has an efficient fish pass of the stepped-pool type. There is also a weir/gravel trap on the Waver at Waverton which incorporates a fish pass. However, the size and flow characteristics of the rivers Waver and Wampool constitute an obstruction in themselves. As previously mentioned, both rivers have extensive lowland reaches which stabilise flows and so reduce the frequency and size of storm freshets. Neither river is sufficiently large to encourage the upstream migration of sea trout during the summer, except during periods of high flow. In the event of a good spate in late July or August, sea trout which move upstream out of tidal water are liable subsequently to be concentrated in the lower reaches as flow returns to the summer normal. Because of the small size of both rivers such fish are then vulnerable to poaching. Because of the relatively few opportunities for the movement of fish during summer the sea trout tend to accumulate in the Waver and Wampool estuaries and the Moricambe Bay awaiting the high river flows which commonly do not occur until late September.

(iii) Predators

Herons and Mergansers in moderate numbers, are the only known predators on either river system.

(iv) Stocking

Details of stocking of sea trout fry and brown trout as small fish during the period 1960-1966 are as follows:-

	River Waver	River Wampool
1960	10,000 brown trout	7,500 sea trout
1961	-	5,000 sea trout
1962	10,000 brown trout	10,000 brown trout
1963	5,000 brown trout 10,000 sea trout	5,000 brown trout 10,000 sea trout
1964	10,000 sea trout	10,000 sea trout
1965	5,000 brown trout 10,000 sea trout	10,000 sea trout 5,000 brown trout
1966	19,000 sea trout	19,000 sea trout
TOTALS	30,000 brown trout 49,000 sea trout	20,000 brown trout 61,500 sea trout

Because of the lack of success of stocking with sea trout there is no further record of any restockings having been carried out apart from the recent introduction of 750 sea trout and 2,000 brown trout fingerlings into the Wiza Beck in compensation for a fish mortality caused by pollution.

8. SUMMARY

(i) Introduction

Before discussing the features of this report it is generally considered that the size and profile and natural characteristics of the rivers Waver and Wampool generally make them unattractive as viable sea trout fisheries. However, the various features of the study carried out by the officers can be summarised as follows:-

(ii) Water Resources

The only critical aspect other than natural flows - particularly dry weather flows - is the maintenance of an adequate residual flow after the water abstraction from the Wiza Beck. However, as previously stated, the flow characteristics of the rivers Waver and Wampool do not encourage the movement of migratory fish until the Autumn.

(iii) Water Quality

As a general comment, the discharges of trade and domestic sewage effluent to the Wampool and the middle and upper reaches of the Waver do not constitute a problem. The lower reaches of the tidal channel to the Waver are however polluted by a discharge of trade effluent. This generally renders the estuary of the Waver unsuitable for fish. It may be possible on certain tides and high river flows for returning adult fish to penetrate the pollution 'zone', but it is most unlikely that they would survive a normal delay during acclimatization when waiting in the estuary. Furthermore the trade effluent discharge to the Waver has an effect on the water quality conditions in Moricambe Bay. Apart from the direct toxicity of the effluent there is the problem associated with the avoidance reaction of migratory trout to a very low concentration of many chemicals, including sulphides and hydrogen sulphide which must be present in the Bay. It can, therefore, be argued that because the homing instinct in sea trout is not as strong as in salmon, it is unlikely that a significant number ever attempt to enter the Bay or Estuaries except possibly under flood conditions. Furthermore, in the estuary of the Wampool near the freshwater limit oxygen levels can fall to below 55% saturation during summer. Sea trout can survive to run through such conditions but may succumb if delayed by low river flow conditions. Therefore, those which ultimately manage to run in September/October are likely to be in relatively poor condition.

(iv) Land Drainage

The land drainage works at present carried out are of importance to agricultural interests. This results in the whole of the lower reaches of both rivers being canalised. Although this renders physical passage for fish easy there are no holding pools and very little cover, so that the river does not have the natural character of a migratory fish river. Because of the continuous movement of silt in the tidal and non-tidal lengths it is considered that any benefit derived from the construction of holding pools or other works would be of very short duration.

(v) Fisheries

The middle and upper reaches of both rivers where the growth of sea trout parr would take place are well stocked with brown trout. Any increase in the number of sea trout parr would result in greater competition with the existing stock of brown trout, possibly with detriment to both. Also, because of the small flows in the lower reaches of both rivers and the lack of adequate cover surviving sea trout would be particularly vulnerable to poaching and predators.

9. CONCLUSION

Taking into account the foregoing factors the officers do not consider that a programme to endeavour to establish the rivers Waver and Wampool as viable sea trout fisheries could be justified. Emphasis should be placed on the need to retain and improve where possible, the brown trout fisheries.

For the convenience of members a map showing the main points of interest in regard to this report will be displayed at the meeting.

NORTH WEST WATER AUTHORITY

EDEN AND DISTRICT

FISHERIES ADVISORY COMMITTEE

18TH OCTOBER, 1977

RIVER EDEN - DRAFT NETS

1. On 12th September, 1977, a preliminary meeting took place between the Chairman of this Committee, the owners' representative and officers of the Authority to investigate the basis on which certain netting and independent rod and line rights on the River Eden at Carlisle, might be offered to the Authority.

2. The information provided by the owner was inadequate for valuation purposes and consequently he has been asked to supply further details. As soon as this additional information becomes available a full report will be prepared for the Committee.

3. When the required information is forthcoming, a commercial valuation of the interest can be made, but this will not necessarily indicate its value to the Authority. This is a matter to be determined in the light of fisheries policy.

4. The initial discussion has shown that the interests involved are complicated and in some cases obscure and the legal position will be set out in the full report.

Item No. 7

NORTH WEST WATER AUTHORITY

EDEN AND DISTRICT
FISHERIES ADVISORY COMMITTEE

18TH OCTOBER, 1977

REPORT BY THE AREA FISHERIES OFFICER ON
FISHERIES ACTIVITIES

1. RIVER CONDITIONS AND FISHING, GENERAL

(i) Very little rain fell during June and the rivers hardly rose above low summer levels after a small freshet at the start of the period. Some fresh fish were seen moving after small showers but the only significant runs were of sea-trout into the Border Esk where the night fishing was fairly good. The showers had little effect on the lower Eden apart from causing transitory discolouration and the 17 salmon reported for the month were all taken above Armathwaite. Fifteen salmon were taken on the Border Esk.

(ii) Throughout July and the first three weeks of August this pattern of river conditions continued unchanged and sightings of fresh fish became progressively rarer. Once again the main benefit of the few showers was seen on the upper Eden and most of the 12 salmon caught were in this stretch of the river along with roughly equal number of grilse. On the Border Esk about a dozen grilse only were taken but sea-trout continued to move in spite of the low water and catches did not decline until mid-August. The sea-trout run on the Eden was, and has continued to be, very disappointing.

(iii) The weather changed on 27th August to being persistently wet and all rivers rose quickly and stayed up, to the end of the period. With the fresh water, fishing success improved dramatically as soon fresh runs of salmon moved through the lower reaches of both the Eden and Border Esk. Of about 30 salmon taken on the Eden, 20 were from between Linstock and Wetheral, and of about 40 on the Border Esk 20 were from below Longtown. The sea-trout and herling fishing on the Border Esk, especially in the first of these two weeks of high water, was also very good; the Canonbie area had the best of the sea-trout, while herling catches throughout the middle and lower reaches were better than at any time in the last four years.

(iv) By mid-September although levels had started to fall back, there was still sufficient water in all rivers to allow the fresh fish to keep moving well upstream. With the sole exception of the Eden sea-trout, which remainded scarce, prospects for the spawning season are encouraging.

(v) Brown trout fishing suffered from the predominantly low water conditions after mid-July but up till then the upper Eden in particular fished well.

2. ULLSWATER, SCHELLIES

It was reported on 19th June, 1977, that dead fish had been seen on the shore of Ullswater and the following day Bailiffs found several hundred fish already dead. They were all schellies, and they appeared to have died over the previous three or four days. By the end of June, Bailiffs had removed more than a thousand dead schellies from the lake-shore but as the schellies continued to die in immense numbers there seemed little point in continuing this hopeless task. Efforts since then have been concentrated entirely on investigating the cause of the mortality; however very little progress has been made. The Freshwater Biological Association set gill nets and took samples of live schellies in early July for fungal investigation, which proved inconclusive. During June and July, Bailiffs supplied several samples of freshly dead fish to the Ministry Veterinary Investigation Centre at Calthwaite; their investigations have also proved inconclusive. Finally, the analysis by Fisheries staff of about 100 scale samples taken from dead schellies has shown only that the vast majority of the fish were mature and aged between 4 and 7 years. Some further bacteriological investigation remains to be done by the Ministry Veterinary Investigation Centre.

The loss of fish seemed to have ended by the middle of August and it should be noted that as virtually no young fish appear to have died, the population of schellies in Ullswater may be expected to have returned to normal within three years. No other species of fish were significantly affected.

3. POLLUTIONS/FISH KILLS

(i) River Petteril, 7th July, 1977

An estimated one to two-thousand brown trout died in the 4 miles downstream of Calthwaite after a rain storm washed freshly applied slurry off agricultural land. It appears that a newly installed drainage system provided to prevent flooding of agricultural land adjacent to the M6 Motorway intercepted existing field tile systems thus permitting wet weather run-off to enter a tributary stream. A warning letter has been sent to the farmer who has agreed to restrict slurry disposal in other fields near the motorway.

(ii) River Petteril, 5th July, 1977

A small number of brown trout were killed in the Catterlen area following a discharge of agricultural effluent. Formal samples were obtained and legal proceedings have been recommended.

(iii) River Wiza, 28th July, 1977

An unknown number of trout were reported to have been removed dead by unauthorised persons from the Old Carlisle area. Scientific Staff of Rivers Division eventually traced a source of farm drainage which has been sealed and the farmer cautioned.

4. BAILIFF ACTIVITIES, MISCELLANEOUS

Bailiffs have been employed extensively on night-patrols throughout July and August, particularly on the Border Esk. As the routine of checking licences and recording fish caught throughout the river systems has been maintained there has been little time for other activities.

The position of Hatchery Manager at Holmwrangle Hatchery remains vacant and has now been re-advertised. Bailiffs have provided the necessary cover at the Hatchery during this period.

5. RE-STOCKING

(i) At their meeting on 11th January, 1977, the Committee were advised of a fish mortality on the Wiza Beck when 40 tonnes of acid latex suspension entered the water-course near Wigton when an industrial storage tank collapsed. Restocking with 2,000 brown trout and 750 sea trout fingerlings has now been completed as compensation.

(ii) No restocking has been carried out by private individuals during the period under review.

6. HOLMWRANGLE HATCHERY

(i) Stock at end of August, 1977:

Age	Type	Quantity
1977	Border Esk sea trout	-
1977	Own sea trout	14,796
1977	Brown trout	6,520
1977	Kincardine salmon	14,000
1977	Eden salmon	6,650
1977	Rainbow trout	564
1977	Char	20
1976	Border Esk sea trout	-
1976	Northumbrian sea trout	608
1976	Brown trout	19,203
1976	Wye salmon	533
1976	Eden salmon	637
1975	Northumbrian sea trout	650
1974	Northumbrian sea trout	282
1974	Brown trout	82

(ii) Movements of fish from hatchery:

Date	No. of fish	Type	Length	To
7 July	2,625	Brown trout	18cm	River Liddle
8 July	2,625	Brown trout	18cm	River Liddle
15 July	90	Brown trout	18cm	Lancaster University
23 August	480	Salmon	Smolts	River Lune
26 August	250	Brown trout	13cm	Private purchaser
26 August	1,713	Salmon	Smolts	River Eden

(iii) Fry Planting

The planting out of salmon and sea trout fry has been in accordance with the schedule set out in the previous report to the Committee.

(iv) Improvements to Hatchery:

Foot Dips: These have been installed at the Hatchery, both in the building and outside to enable personnel to disinfect footwear on entering and leaving the area. This is as a precaution against infecting the stock from an outside source.

Standby Borehole & Generator: This is now in operation. Periodic checks and routine maintenance will be carried out to ensure that it will automatically switch on to supply whenever a failure of the main supply renders this necessary.

Tank Netting: All the 10 metre tanks and the compound tank area are netted over.

(v) Disease at Hatchery

Medication of fish stocks has been carried out on a routine basis with a view to prevention, rather than of cure, over the past three months.

The 1976 brown trout and the stock fish are among those fish that have received medication in the form of Malachite Green dispensed in either a flush or bath treatment. This has been done to help curb the problems of Saprolegnia infection to which these fish become prone at this time of year.

(vi) Miscellaneous

Water supply samples are being monitored on all the supplies to enable a check to be kept regarding any fluctuation in the water quality.

NORTH WEST WATER AUTHORITY

EDEN & DISTRICT
FISHERIES ADVISORY COMMITTEE

18TH OCTOBER, 1977

NETTING ON THE SOLWAY FIRTH

1. At their meeting on 29th March, 1977, the Committee were advised that the Annandale & Eskdale District Council had applied to the Court of Sessions in Edinburgh for an interim Injuction to restrain the Authority from exercising its fishery powers in the former Annan Borough Charter Area. This application had however been refused with costs, mainly because by the time the application was heard the main channel had moved back south "outwith" the Charter Area.

2. The District Council however are still continuing with their action for a Declaration that the whole of the Charter Area is Scottish Territory and for a permanent Injunction on the same lines as the interim Injuction. A hearing date has not yet been fixed but it is not expected that this will be before the New Year. However as long as the main channel remains permanently outside the Charter Area it is hoped, especially in view of the dismissal of the application for interim Injunction, that the Authority will be successful in having the case dismissed. A further report will be made to the Committee after the hearing.